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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,799	09/12/2003	Mukund Raghavachari	YOR920030346	9501
34663 7590 04/17/2007 MICHAEL J. BUCHENHORNER 8540 S.W. 83 STREET MIAMI, FL 33143			EXAMINER LUDWIG, MATTHEW J	
			ART UNIT	PAPER NUMBER
			2178	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/662,799	Applicant(s) RAGHAVACHARI ET AL.	
	Examiner Matthew J. Ludwig	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the Request for Reconsideration filed 1/22/2007.
2. Claims 30-50 are pending in the application. Applicant cancelled claims 1-29.
3. Claims 1-3, 10, 11, 28, and 29, rejected under 35 U.S.C. 102(b) as being anticipated by Thompson, et al., have been withdrawn pursuant to applicant's amendment. Claims 4-9 and 12-27 rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Thompson, Henry S. and further in view of a subset of test results from Microsoft on complex type elements (Schema Tests) have been withdrawn pursuant to applicant's amendment.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 30-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson, Henry S., et al., "A Standards-based XML Schema Implementation Comparison Framework," HCRC Language Technology Group, World Wide Web Consortium, paper presented at Extreme Markup Languages 2001, August 14-17, 2001, last downloaded by the Examiner January 31, 2006 from: <http://www.mulberrytech.com/Extreme/Proceedings/xslfo-pdf/2001/Thompson01/EML2001Thompson01.pdf>, downloaded cover page and pages 1-7 [hereinafter "Thompson"]**,

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in view of Thompson, Henry S., "W3C XML Schema Test Collection," W3C, January 16, 2002, last downloaded by the Examiner on January 31, 2006 from:

<http://www.w3.org/2001/05/xmlschema-test-collection.html>, downloaded pages 1-9, [hereinafter "Schema Tests"],

and further in view of a subset of test results from Microsoft on complex type elements, last downloaded by the Examiner on February 1, 2006 from:

<http://www.w3.org/XML/2001/05/xmlschema-test-collection/result-ms-complexType.htm>, downloaded pages 1-178, which are linked to the "W3C XML Schema Test Collection." [The Microsoft complex type test results referred to hereinafter as "Microsoft Complex Type Test Results."].

In reference to independent claim 30, Thompson teaches:

A computer-implemented method of validating a document structured as an ordered tree having labeled elements, known to conform to varying element types in accordance with a first schema, with respect to a second schema, said method comprising:

preprocessing the first and said second schemas to identify subsumed type-pairs, of the form type1-type2 where type1 is a type defined in the first schema and type2 is a type defined in the second schema, the pairs indicating that an element's content that conforms to the first type, type 1, will also conform to the second type, type2; and

identifying subsumed element tag-type-pairs, of the form tag-type1-type2, where tag is an element name, type1 is a type in the first schema and type2 is a type in the second schema; it indicates that if the specified element tag appears in a document

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conforming to the first schema with content of type1, then this element tag can validly appear in a document conforming to the second schema and its content will conform to type type2.

(It is noted that the term subsumed is read to be synonymous with “matching.” See, disclosure, paragraph [0012].

It is further noted that the claim compares schema element types to determine whether they match.

See, Thompson, pages 1-7, teaching comparison of a valid XML, HTML, schema or XSLT document elements, taught as structures, to a second such document structure to determine whether they match, thereby validating or invalidating the second document.

Thompson teaches the validation of a second schema by comparison to a first valid schema. Thompson does not teach the specific tests for validation.

Schema Tests teaches specific tests for validation of a second schema compared against a first valid schema.

Microsoft Complex Type Test Results teach comparisons under hundreds of variations and the results of the comparison testing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references because they all involve the same art, comparison testing of XML schemas for validation purposes. The suggestion to combine the two references is explicit in Thompson wherein it cites the reader to the schema test collection homepage, which links directly to test results by Sun, NIST, and Microsoft (including the Microsoft Complex Type Test

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Results). See, Thompson, page 7, bottom of the first partial paragraph, citing to “<http://www.w3.org/2001/05/xmlschema-test-collection.html>.”

The above discussion of the limitation and combinations of Thompson, Schema Tests, and Microsoft complex test results above are incorporated into the rejections of the specific claims below, with more specific references cited in the rejection of the claims as needed.

Finally, *The method of claim 3 wherein a type defined in said second schema is identified as a disjointed type with respect to a type in said first schema if a relationship exists between said type in said first schema and said type in said second schema such that portions of a document that are valid with respect to said type in said first schema are not valid with respect to said type in said second schema.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results “ctH019” at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result.)

In reference to dependent claim 31, Thompson teaches:

The method of claim 3 wherein a type defined in said second schema is identified as an intersecting type if a relationship exists between a type in said first schema and said type in said second schema such that some portions of a document that are valid with respect to said type in said first schema are valid with respect to said type in said second schema and some portions of a document that valid with respect to said type in said first schema are invalid with respect to said type in said second schema.

(See, Schema Tests, and also see, Microsoft Complex Type Test Results “ctH019” at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result. It would have been obvious to one of ordinary skill in the art at the time of the invention that a

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schema that was invalid as to part of the schema would have been invalid as to all of the schema.

A partially invalid schema is obviously invalid.)

In reference to dependent claim 32, Thompson teaches:

The method of claim 32 wherein a type defined in said second schema is identified as an intersecting type if a relationship exists between a type in said first schema and said type in said second schema such that some portions of a document that are valid with respect to said type in said first schema are valid with respect to said type in said second schema and some portions of a document that valid with respect to said type in said first schema are invalid with respect to said type in said second schema.

(See, Schema Tests, and also see, Microsoft Complex Type Test Results “ctH019” at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result. It would have been obvious to one of ordinary skill in the art at the time of the invention that a schema that was invalid as to part of the schema would have been invalid as to all of the schema. A partially invalid schema is obviously invalid.)

In reference to dependent claim 33, Thompson teaches:

The method of claim 33 wherein said relationship between the element type pair such that portions of the source document that are in compliance with respect to the element type in the source schema are also valid with respect to the corresponding element type in the target schema.

(It would have been obvious to one of ordinary skill in the art at the time of the invention that the portions of the first schema that are validated are used to validate the second schema. The

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invention claims that the first document is validated, and valid portions of the first schema are, by definition, used to validate the second schema.)

In reference to dependent claim 34, Thompson teaches:

See, Schema Tests, and also see, Microsoft Complex Type Test Results “ctH019” at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result and a valid second schema in the Msv Crimson and XSV tests.

In reference to dependent claim 35, Thompson teaches:

See, Schema Tests, and also see, Microsoft Complex Type Test Results “ctH019” at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result. It would have been obvious to one of ordinary skill in the art at the time of the invention that a schema that was invalid as to part of the schema would have been invalid as to all of the schema. A partially invalid schema is obviously invalid.

In reference to dependent claim 36, Thompson teaches:

It would have been obvious to one of ordinary skill in the art at the time of the invention to declare that a comparison of schemas in which there are no common types could be declare the second schema valid. This obviousness is because there is no basis from the comparison to determine that the second schema is not valid.

In reference to dependent claim 37, Thompson teaches:

It is noted that a “automaton” is defined in the disclosure as follows: “an immediate decision automaton” and as “a simple computation device.” See, declaration, paragraph [0012]. The “immediate decision automaton” is disclosed with a purpose to analyze a modified schema only up to a point where it is determined that there are no further modifications. See, disclosure,

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paragraph [0015]. It would have been obvious to one of ordinary skill in the art at the time of the invention to only conduct a comparison test on a schema that was known to be valid prior to modification only up to the point where the modifications stop, because the remainder of the schema is known to be valid.

In reference to dependent claim 38, Thompson teaches:

It is noted that the elements of claim 18 are read as alternative members of a Markush group. See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML schema.

In reference to dependent claim 39, Thompson teaches:

The method of claim 1 wherein said document is an XML document.

See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML documents.

In reference to dependent claim 40, Thompson teaches:

It is noted that the elements of claim 20 are read as alternative members of a Markush group. See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML schema.

In reference to dependent claim 41, Thompson teaches:

A comparison between two documents to determine modification was well known by one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to run a comparison test on a schema prior to validating a schema if one thought the schema may have been modified subsequent to validation.

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In reference to dependent claim 42, Thompson teaches:

A comparison between two documents to determine modification was well known by one of ordinary skill in the art at the time of the invention. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to test only the modified portions of the test schema because the remainder of the schema would be known to be valid by virtue of the prior comparison. It would have been obvious to one of ordinary skill in the art at the time of the invention to run a comparison test on a schema prior to validating a schema if one thought the schema may have been modified subsequent to validation.

In reference to dependent claim 43, Thompson teaches:

It would have been obvious to one of ordinary skill in the art at the time of the invention to ignore deleted elements because a deleted element obviously has no influence on an otherwise valid schema.

In reference to dependent claim 44, Thompson teaches:

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow modified specifications to be permitted within the information computed and, assuming the modified specifications were valid, to conclude that the entire document was valid, provided the un-modified portions were already determined to be valid.

In reference to dependent claim 45, Thompson teaches:

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow modified specifications to be permitted within the information computed and, assuming the modified specifications were valid, to conclude that the entire document was valid, provided the un-modified portions were already determined to be valid.

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In reference to dependent claims 46-48, Thompson teaches:

The only requirement on an XML Schema processor for its output to be comparable with another's by the method described here is that it be able to reflect the post schema-validation Infoset as an XML document, itself valid with respect to the published XML Schema for such representations. Therefore, it would have been obvious to provide a processing step sequentially, parallel or as a combination thereof and extract the same result because it would have utilized similar methods as those described by the Standard-based XML Schema implementation.

In reference to dependent claims 49-51, Thompson teaches:

See, Schema Tests, and also see, Microsoft Complex Type Test Results "ctH019" at page 125 of 178 showing a comparison test result with a not valid second schema in the Xerxes test result. It would have been obvious to one of ordinary skill in the art at the time of the invention that a schema that was invalid as to part of the schema would have been invalid as to all of the schema. A partially invalid schema is obviously invalid.

In reference to claims 52-57, the claims reflect similar limitations to those reflected in rejected claims 30-37, therefore, the claims are rejected under similar rationale.

Response to Arguments

6. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

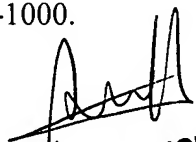
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Ludwig whose telephone number is 571-272-4127. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML


STEPHEN HONG
SUPERVISORY PATENT EXAMINER